



NxSTAGE® from FRESENIUS MEDICAL CARE

Dosing for Peritoneal Dialysis:
Best Practices for Individualized Care

Presented by: <name>

How to prescribe **patient centered** peritoneal dialysis at home in **3 steps**

1. **Ultrafiltration, dwell time & frequency**
2. **Daily treatment volume**
3. **Fill volume**

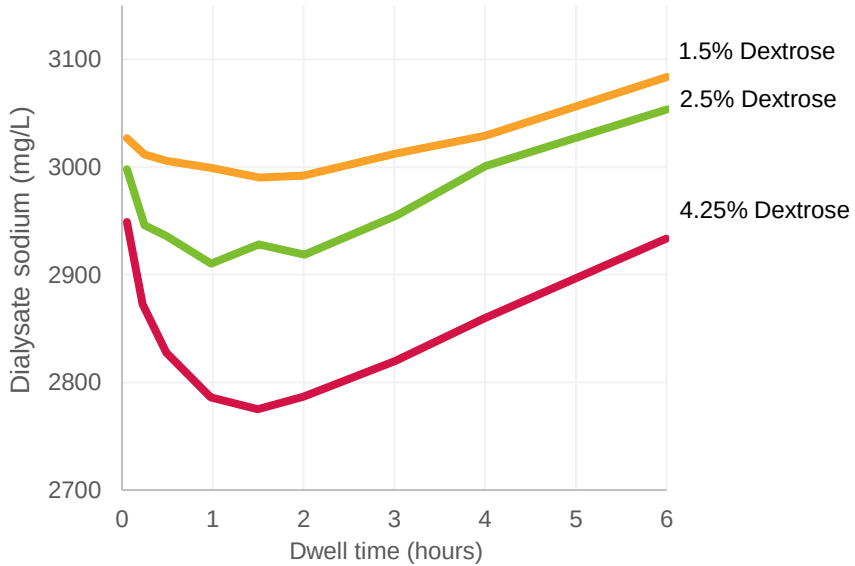
Step 1:

Ultrafiltration, dwell time & exchange frequency

Shorter dwell times may lead to increased serum sodium, resulting in increased thirst[1]

1 DWELL TIME & EXCHANGE FREQUENCY

Sodium sieving and dwell time



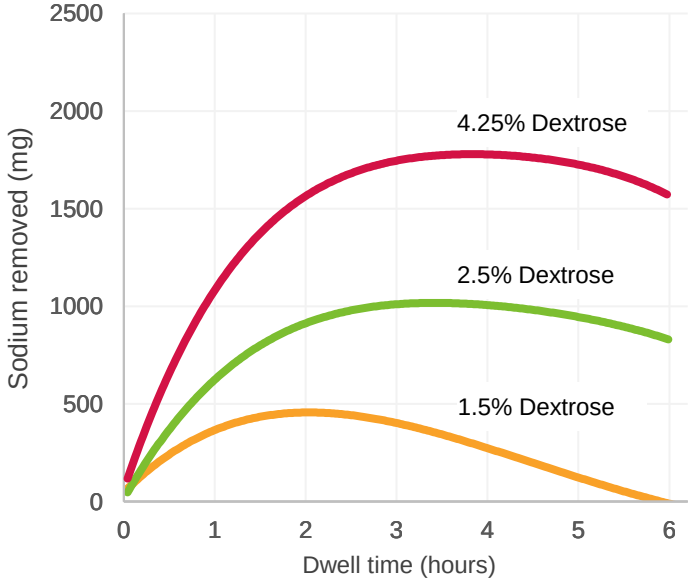
[1]van Biesen W et al. Evaluation of peritoneal membrane characteristics: a clinical advice for prescription management by the ERBP working group. Nephrol Dial Transplant. 2010;25: 2052–2062. Figure redrawn; dialysate sodium values converted from mmol to mg.

- Aquaporin channels produce sodium free or “free water” transport during the 1st hour of dwell
- Sodium diffusion increases after 2 hours of dwell
  - Sodium sieving can continue >2 hours into dwell depending on transport type and dextrose concentration

Longer dwell times may mitigate sodium sieving and yield more sodium removal [1]

1 DWELL TIME & EXCHANGE FREQUENCY

Sodium removal and dwell time



- Total sodium removal is an important consideration when determining dwell time
- Sodium removal plateaus depending on transport type and dextrose concentration
  - 1 hour using 1.5% dextrose
  - 2 hours using 2.5% and 4.25% dextrose
- Too short and too long cycles are inefficient in removing sodium

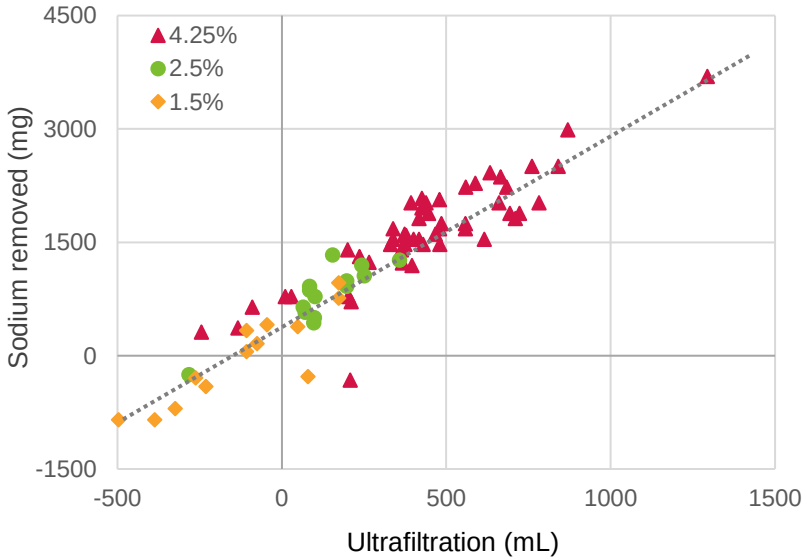
[1]Wang T et al. A quantitative analysis of sodium transport and removal during peritoneal dialysis. Kidney International, Vol. 52 (1997), pp. 1609—1616. Figure redrawn using sodium mass removed calculated using direct measurements.

Dwell time + ultrafiltration → sodium removal[1]

1

DWELL TIME & EXCHANGE FREQUENCY

Net sodium and fluid removal



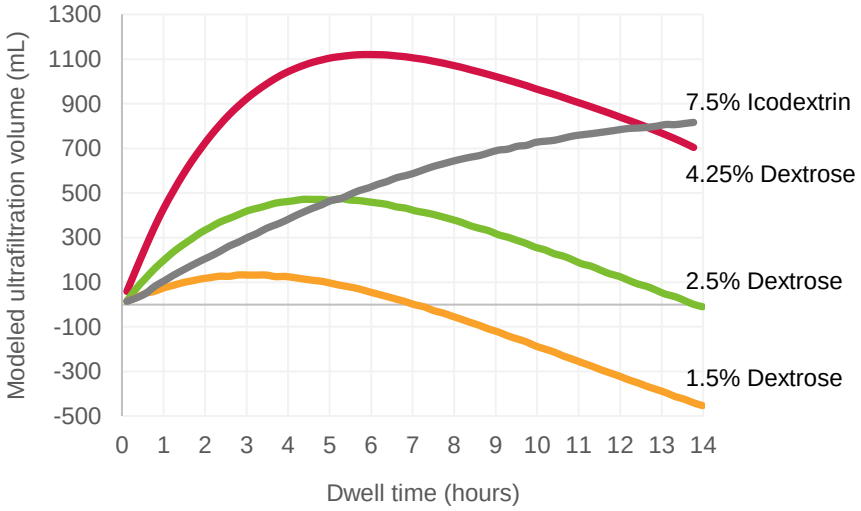
- Sodium removal is dependent upon dextrose concentration and a patient's transport status
- Maximum sodium removal is achieved at the same time as maximum ultrafiltration

[1]Wang T et al. A quantitative analysis of sodium transport and removal during peritoneal dialysis. Kidney International, Vol. 52 (1997), pp. 1609—1616.

Ultrafiltration varies by dwell time, membrane efficiency, and dextrose concentration[1]

1 DWELL TIME & EXCHANGE FREQUENCY

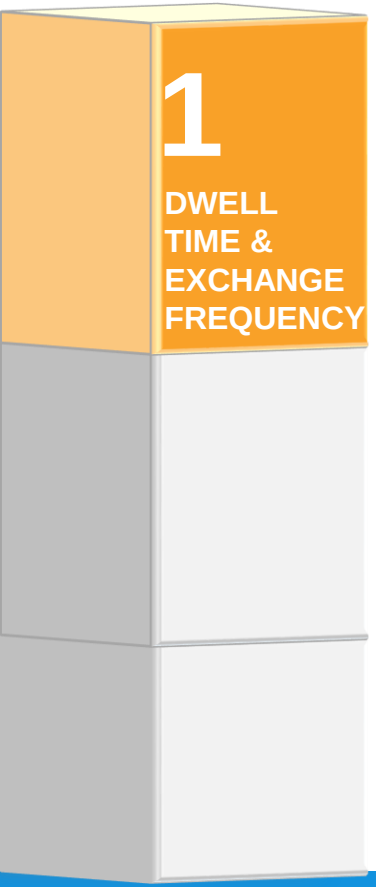
Ultrafiltration (UF) for an average transporter by dextrose concentration



- Use average transporter status for the initial prescription
- Maximum UF is between 2 – 6 hours depending on dextrose concentration
- Negative UF not likely before 7 – 14 hours
- UF goals should be balanced with level of dextrose exposure

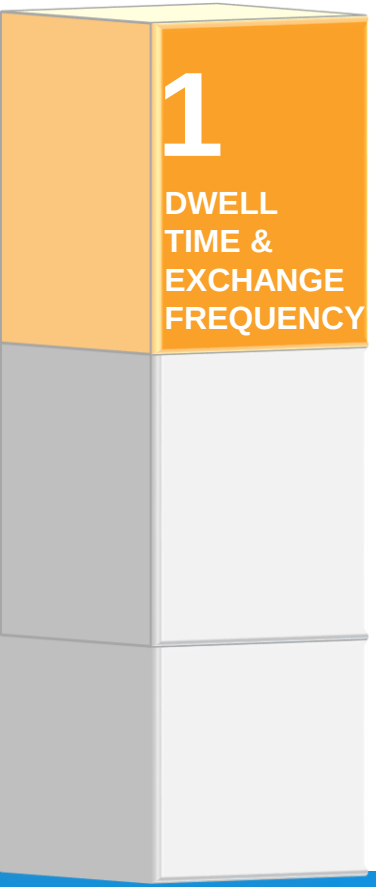
[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Dwell time (hours) for peak ultrafiltration[1]



Dextrose Concentration	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
1.5%	2	2	2	4	5
2.5%	4	3	4	6	7
4.25%	5	4	5	8	9
7.5% Icodextrin	>14	>14	>14	>14	>14

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.



Dwell time (hours) to negative ultrafiltration[1]

Dextrose Concentration	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
1.5%	7	5	6	9	11
2.5%	14	10	12	>14	>14
4.25%	>14	>14	>14	>14	>14
7.5% Icodextrin	>14	>14	>14	>14	>14

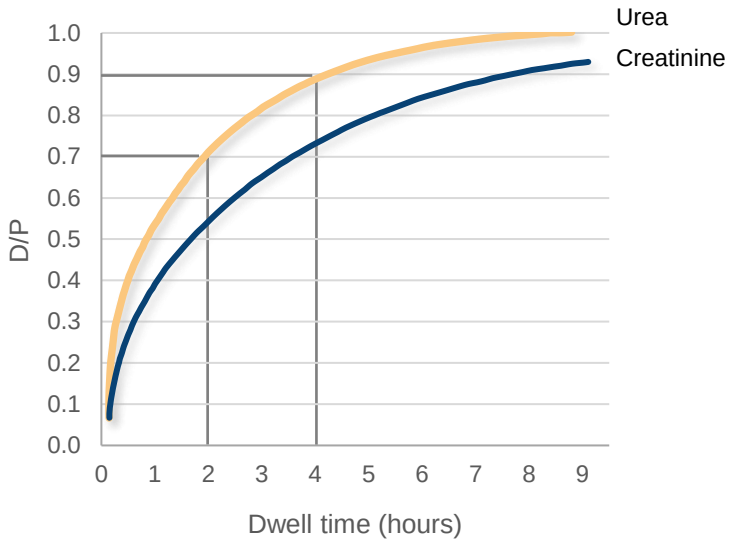
[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Dwell time and small solute clearance[1]

1

DWELL TIME & EXCHANGE FREQUENCY

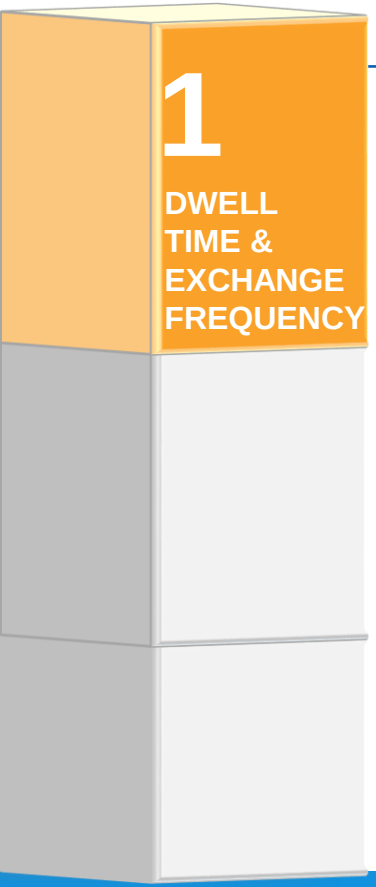
Average transport status and dwell time



[1]Handbook of Dialysis Fifth Edition by Daugirdas JT, Blake PG, Ing TS. Philadelphia, PA: Lippincott Williams & Wilkins,2014, 900 pp. Figure 21.6.

- Use the average transport status D/P for the initial prescription
  - 0.9 for the longer dwells (CAPD)
  - 0.7 for shorter dwells (APD)
- Dwell time and/or glucose concentration may need to be adjusted with PET test results
  - Must be individualized to your patient's status after initial prescription
  - Ordered within 4-6 weeks

Modality should be positioned based upon patient factors and treatment goals[1-4]



CAPD

Could include: 4-5 manual exchanges

Potential benefits

- Increased Na^+ removal
- Less training time vs. APD
- Least challenging of all home renal replacement therapies
- Useful for unexpected power outages or natural emergencies

Potential challenges

- Poor adherence with 5 exchanges
- Increased daytime burden
- May increase chances for contact contamination
- Limited treatment volume of 12L – 15L

APD

Could include: PD Plus, CCPD, NIPD

Potential benefits

- Offers flexibility for work, school, and social time
- Fewer connections → potentially lower risk of touch contamination and peritonitis
- Can increase treatment volumes to 15L – 18L

Potential challenges

- Limited with dry days
- Best efficiency with 9 – 10 hours per night
- Consider gain vs. cost

[1]Li PK-T, et al. Perit Dial Int. 2010;30(4):393-423; Johnson DW, et al. Nephrol Dial Transplant. 2010;25(6):1973-1979. [2]Dell'Aquila R, et al. Contrib Nephrol. 2009; 163:292-299. [3]Liakopoulos V, Dombros N. Perit Dial Int. 2009;29 Suppl 2:S102-S107. [4]Catizone L, et al. J Nephrol. 2010;23 Suppl 1:S90-S97.

Daytime exchanges may solve for some of the common challenges of CAPD or APD alone[1]

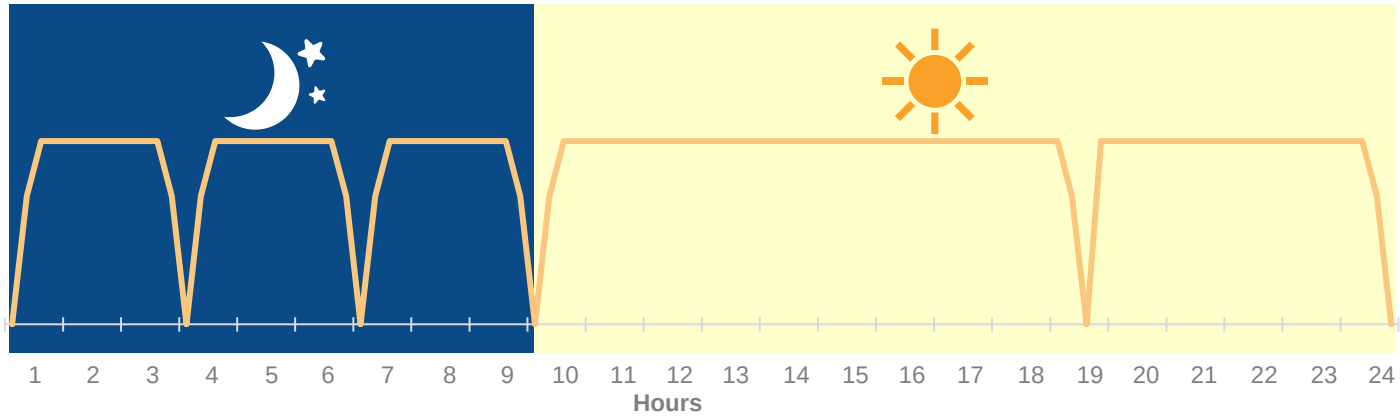
1

DWELL TIME & EXCHANGE FREQUENCY

A daytime exchange is recommended for patients with minimal residual renal function[1]

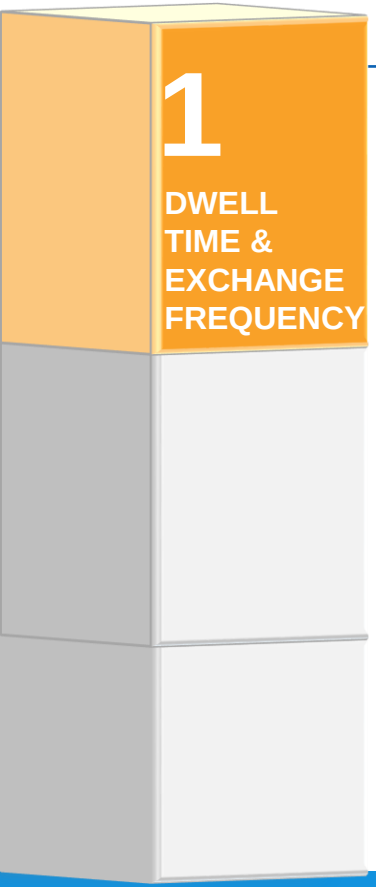
PD Plus includes an additional mid-day exchange and may provide:[2]

- Less cycler time
- Increased ultrafiltration and solute clearance



[1]Brown, EA et al. International Society for Peritoneal Dialysis Practice Recommendations: Prescribing High-Quality Goal-Directed Peritoneal Dialysis. Perit Dial Int. 2020;40(3):244–253.

Additional guidance when prescribing APD



A daytime exchange is recommended for patients with minimal residual renal function[1]

Consider maximizing the dwell time of nocturnal exchanges before transport status is measured

- Dwell times for ultrafiltration and sodium removal:
  - 3-4 exchanges over 6-10 hours
  - Kt/V will follow
- Prescription must be individualized to patients needs based on PET test results
- Individualized prescriptions can be modeled easily using the Fresenius Medical Care PD Calculator

[1]Brown, EA et al. International Society for Peritoneal Dialysis Practice Recommendations: Prescribing High-Quality Goal-Directed Peritoneal Dialysis. Perit Dial Int. 2020;40(3):244–253.

Step 2:

Treatment volume

Factors affecting initial daily dialysate treatment volume

Treatment goals

Ultrafiltration

- Fluid removal required due to daily intake and/or build-up

Urea clearance

- Minimum target weekly standard Kt/V = 1.7[1]
- Residual renal function
  - ➢ *Each 1 mL/min of GFR provides approximately 0.25 to the total Kt/V*[2]

Patient factors

Patient total body water (volume)[3]

- Men = 0.5L x weight (kg)
- Women = 0.42L x weight (kg)

Average transport status and dwell time urea (D/P):[4]

- 0.9 for the longer dwells (CAPD)
- 0.7 for shorter dwells (APD)

Adjust later based on PET test results

[1]Brown, EA et al. International Society for Peritoneal Dialysis Practice Recommendations: Prescribing High-Quality Goal-Directed Peritoneal Dialysis. Perit Dial Int. 2020;40(3):244–253. [2]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [3]Daugaridas et al; Standard Kt/V urea: a method of calculation that includes effects of fluid removal and residual renal clearance. KI77(2010), 637 – 644. [4]Handbook of Dialysis Fifth Edition by John T. Daugirdas, Peter G. Blake and Todd S. Ing. Philadelphia, PA: Lippincott Williams & Wilkins,2014, 900 pp. Figure 21.6.

Calculating CAPD dialysate volume

2 TREATMENT VOLUME

CLEARANCE AND ULTRAFILTRATION → TREATMENT VOLUME

KG	X		÷	7	+	Ultrafiltration (1L)	=
Total body water (80kg male)		**Urea clearance** Standard weekly Kt/V could be reduced with residual renal clearance		**Frequency & efficiency** (7 x 0.9 initial transport Rx)		**Daily treatment volume**	
80kg x **0.5L/kg** = **40L**		40L x 1.7 = **68L**		68L ÷ 6.3 = **10.7L**		10.7L + **1L** = **12L** (rounded)	
INPUT		**TARGET**		**CALCULATE**		**PRESCRIBE**	

CAPD dialysate volume for anuric Men

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	9		9	9	10
80 kg	12		12	12	14
100 kg	14		14	15	17
120 kg	17		17	17	
140 kg					

Assumes zero residual kidney function and allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L. APD is strongly recommended for high transporters.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Calculating APD dialysate volume

CLEARANCE AND ULTRAFILTRATION → TREATMENT VOLUME

KG	X		÷	7	+	Ultrafiltration (1L)	=
Total body water (80kg male)		**Urea clearance** Standard weekly Kt/V could be reduced with residual renal clearance		**Frequency & efficiency** (7 x 0.7 initial transport Rx)		**Daily treatment volume**	
80kg x **0.5L/kg** = **40L**		40L x 1.7 = **68L**		68L ÷ 4.9 = **13.9L**		13.9L + **1L** = **15L** (rounded)	
INPUT		**TARGET**		**CALCULATE**		**PRESCRIBE**	

Calculating PD Plus™ dialysate volume

2
TREATMENT VOLUME

CLEARANCE AND ULTRAFILTRATION → TREATMENT VOLUME

Total body water (80kg male)	x	**Urea clearance** (Standard weekly Kt/V could be reduced with residual renal clearance)	÷	**Frequency & efficiency** (7 x 0.78 initial transport Rx)	+	**Ultrafiltration** (1L)	= **Daily treatment volume**
80kg x **0.5L/kg** = **40L**		40L x 1.7 = **68L**		68L ÷ 5.5 = **12.4L**		12.4L + **1L** = **13L** (rounded)	
INPUT		**TARGET**		**CALCULATE**		**PRESCRIBE**	

PD Plus dialysate volume for anuric Men

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	10	9	10	10	12
80 kg	13	12	13	14	15
100 kg	17	15	17	17	19
120 kg	20	18	20	20	
140 kg		20			

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of >18L require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

CAPD dialysate volume for Men

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

2 TREATMENT VOLUME

Weight (kg)	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6		6	6	7
80 kg	7		7	7	8
100 kg	9		9	9	10
120 kg	11		11	11	12
140 kg	12		12	12	14

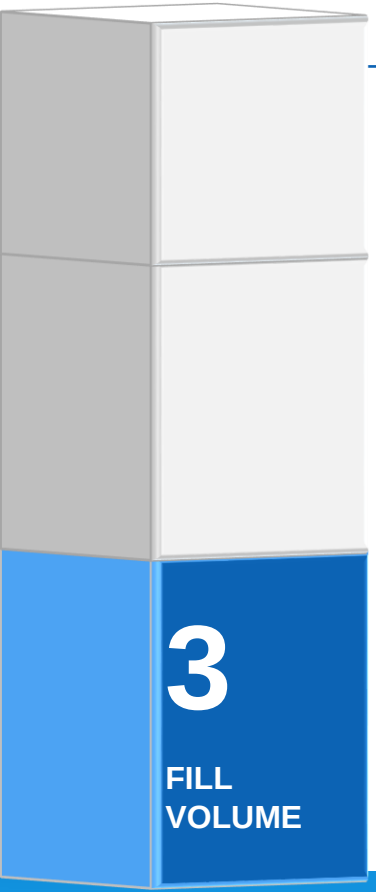
Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L. APD is strongly recommended for high transporters.

[1]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [2]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Step 3:

Fill volume

Fill volume



Body weight and dialysate bag size are the key determinants of fill volume per exchange

Patient weight (kg)	Reasonable fill volume (L)
<60	2.0
80	2.5
100	2.5 – 3.0
120	3.0
140	3.0

APD can use any fill volume between 0.5L – 4L.

CAPD fill volume / dialysate bag size: 2L, 2.5L and 3L.

Key take-aways

Guides for PD therapy prescription

Prescription priority:

- Prescribe to manage volume and sodium removal
  - Urea clearance will follow
- Prescription should be adjusted with PET test results
  - PET test should be ordered within 4-6 weeks after PD initiation
- Adjust for gain or loss of residual renal function over time

Patient characteristics are paramount:

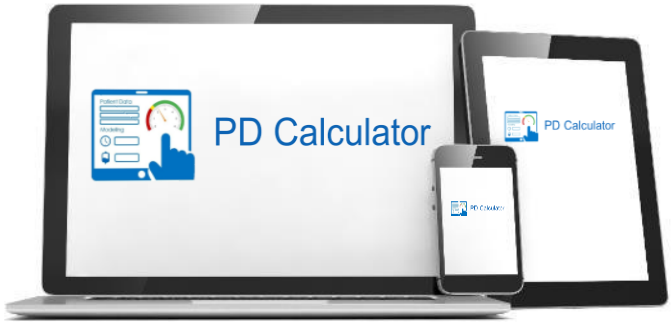
- Engage patients in modality education and encourage commitment
- Dietary, sodium, and fluid restrictions remain important
- More patients can benefit from:[1]
  - Greater health-related quality of life
  - Flexibility for work, school, and social time

[1]Bonenkamp AA et al. Health-Related Quality of Life in Home Dialysis Patients Compared to In-Center Hemodialysis Patients: A Systematic Review and Meta-analysis. Kidney Med. Published online 2/2020.

Fresenius Medical Care PD Calculator

- Intuitive, simple tool with real time feedback assists PD prescription programming
- Provides assistance for therapy treatment based on minimal patient data
  - Total treatment volume and time
  - Fill volume, number of exchanges and time per exchange
- Compatible with desktop and mobile devices

https://fresenius.pdcalculator.com/



Fresenius Medical Care PD Calculator

Intended Use

The online PD (Peritoneal Dialysis) Calculator is intended for use by clinicians for modeling the dialysis dose (Kt/V) for different peritoneal dialysis prescriptions options. Modeling a PD dose is based on generalized formulas and assumptions derived from patient populations. The output of a modeled prescription is limited in its accuracy and cannot account for the variability seen in individual patients. It is essential that the physician adjusts the prescription according to the individual patient's clinical parameters to ensure the adequacy of the PD prescription.

The calculator is not intended to replace the judgment or experience of the attending physician. The peritoneal dialysis treatment prescription is the sole responsibility of the attending physician.

The PD Calculator is not intended to be used for pediatric patients or amputees.

Fresenius Medical Care PD Calculator

Important Information

The PD Calculator is a Clinical Decision Support Software (CDSS) tool and cannot address the full range of topics related to a PD prescription that are critical for the overall management and ongoing monitoring of a PD patient. This tool should never be used as a substitute for physician judgement. It is the responsibility of the healthcare provider to independently review the results provided by the PD Calculator and not rely solely on this tool when making clinical treatment decisions for patients.

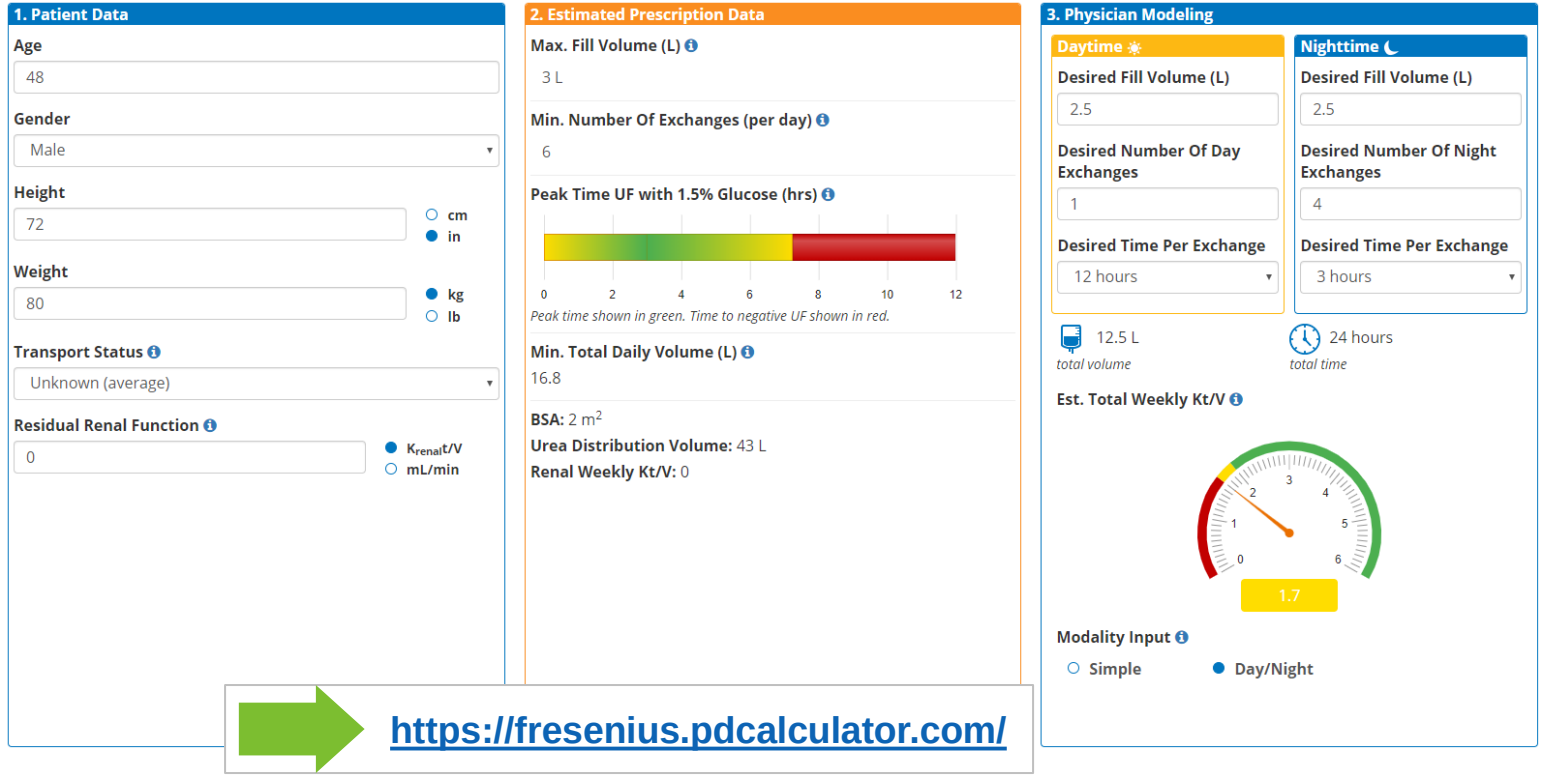
The PD Calculator requires patient-specific input information (age, gender, height, weight, transport status, and residual renal function) for predicting Kt/V of a modeled prescription. It is the responsibility of the user to ensure the accuracy of the patient parameters. Incorrect patient data may result in the over- or under-estimation of the predicted Kt/V.

The PD Calculator utilizes the formulas and algorithms provided in the PD Calculator Formulas and References section. It is the physician's responsibility to confirm that these formulas are appropriate for and applicable to their particular patient.

The Fresenius Medical Care Renal Therapies Group has made every reasonable effort to ensure the accuracy of the calculations provided by the PD Calculator. In no event will FMCNA be liable for any losses or damages arising from or relating to your use of the PD Calculator, whether direct, indirect, incidental or consequential.

Fresenius Medical Care PD Calculator

FRESENIUS MEDICAL CARE
RENAL THERAPIES GROUP



https://fresenius.pdcalculator.com/

Helpful resources

Transport type, ultrafiltration and solute clearance prescription guide[1]

Membrane type	Percent of patients	Solute transport	Net UF	Prescription guidance
High	10%	Fast	Poor	More, shorter dwells may be needed to avoid negative ultrafiltration; dry periods may be possible and icodextrin may be a consideration
High Average	53%	Good	OK	
Low Average	31%	OK	Good	Longer dwells needed for solute transport; need high volume exchanges to get clearance
Low	6%	Slow	Excellent	

[1]Twardowski ZJ. Adv Perit Dial. 1990;6:186-91. Blake P, et al. Perit Dial Int. 1996;16(5):448-56

Dwell time (hours) for peak ultrafiltration[1]

Dextrose Concentration	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
1.5%	2	2	2	4	5
2.5%	4	3	4	6	7
4.25%	5	4	5	8	9
7.5% Icodextrin	>14	>14	>14	>14	>14

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Dwell time (hours) to negative ultrafiltration[1]

Dextrose Concentration	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
1.5%	7	5	6	9	11
2.5%	14	10	12	>14	>14
4.25%	>14	>14	>14	>14	>14
7.5% Icodextrin	>14	>14	>14	>14	>14

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

PD dialysate volume guides for anuric MEN

Quick reference guides by transport status

CAPD dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	9		9		
80 kg	12		11		
100 kg	14		14		
120 kg	17		17		
140 kg					

Assumes zero residual kidney function and allows for UF of <1 L/day.
Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

APD dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	11	10	11		
80 kg	15	13	14		
100 kg	18	16	18		
120 kg	22	19	21		
140 kg		23			

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

PD Plus dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	10	9	10	10	12
80 kg	13	12	13	14	15
100 kg	17	15	16	17	19
120 kg	20	18	19	20	23
140 kg	23	20	22	23	

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Please see appendix slides 41 - 43

PD dialysate volume guides for anuric WOMEN

Quick reference guides by transport status

CAPD dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	8		8		
80 kg	10		10		
100 kg	12		12		
120 kg	15		14		
140 kg	17		16		

Assumes zero residual kidney function and allows for UF of <1 L/day.
Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

APD dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	10	9	10		
80 kg	13	11	12		
100 kg	16	14	15		
120 kg	18	17	18		
140 kg	21	19	21		

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

PD Plus dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	9	8	9	9	10
80 kg	11	10	11	12	13
100 kg	14	13	14	14	16
120 kg	17	15	16	17	19
140 kg	19	17	19	20	22

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

Please see appendix slides 44 – 46

PD dialysate volume guides for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4GFR quick reference guides by transport status

CAPD dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6		6		
80 kg	7		7		
100 kg	9		9		
120 kg	11		10		
140 kg	12		12		

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

[1]Misra M, N… the answer? Vonesh E. P… 2002;(81):S…

APD dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	7	6	7		
80 kg	9	8	9		
100 kg	11	10	11		
120 kg	13	12	13		
140 kg	15	14	15		

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Misra M, N… the answer? Vonesh E. P… 2002;(81):S…

PD Plus dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	6	6	7	7
80 kg	8	8	8	8	10
100 kg	10	9	10	10	12
120 kg	12	11	12	12	14
140 kg	14	12	13	14	16

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [2]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

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Please see appendix slides 47 – 49

PD dialysate volume guides for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4GFR quick reference guides by transport status

CAPD dialysate volume for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	5		5		
80 kg	6		6		
100 kg	8		7		
120 kg	9		9		
140 kg	10		10		

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

[1]Misra M, N… the answer? … Vonesh E. P… 2002;(81):S…

APD dialysate volume for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	6	6		
80 kg	8	7	8		
100 kg	10	9	9		
120 kg	11	10	11		
140 kg	13	12	13		

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Misra M, N… the answer? … Vonesh E. P… 2002;(81):S…

PD Plus dialysate volume for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Transporter Status:

Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	5	5	6	6
80 kg	7	6	7	7	8
100 kg	9	8	8	9	10
120 kg	10	9	10	10	12
140 kg	12	11	11	12	14

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [2]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

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Please see appendix slides 50 – 52

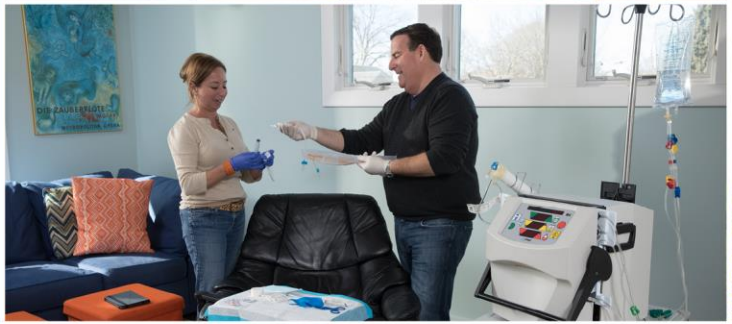
Risk and Responsibility

The reported benefits of peritoneal dialysis may not be experienced by all patients.

Peritoneal dialysis does involve some risks that may be related to the patient, center, or equipment These include, but are not limited to, infectious complications. Examples of infectious complications include peritonitis, and exit-site and tunnel infections. Non-infectious complications include catheter complication such as migration and obstruction, peritoneal leaks, constipation, hemoperitoneum, hydrothorax, increased intraperitoneal volume, respiratory, and gastric issues.

It is important for healthcare providers to monitor patient prescriptions and achievement of adequacy and fluid management goals.

Patients should consult their doctor to understand the risks and responsibilities of performing peritoneal dialysis.



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Appendix:

Dialysate Volume Quick Reference Guides

CAPD dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	9		9	9	10
80 kg	12		11	12	14
100 kg	14		14	15	17
120 kg	17		17	17	
140 kg					

Assumes zero residual kidney function and allows for UF of <1 L/day.
Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

APD dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	11	10	11	12	13
80 kg	15	13	14	15	17
100 kg	18	16	18	19	21
120 kg	22	19	21	22	
140 kg		23			

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

PD Plus dialysate volume for anuric MEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	10	9	10	10	12
80 kg	13	12	13	14	15
100 kg	17	15	16	17	19
120 kg	20	18	19	20	23
140 kg	23	20	22	23	

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

CAPD dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	8		8	8	9
80 kg	10		10	10	12
100 kg	12		12	13	14
120 kg	15		14	15	17
140 kg	17		16	17	

Assumes zero residual kidney function and allows for UF of <1 L/day.
Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

APD dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	10	9	10	10	11
80 kg	13	11	12	13	15
100 kg	16	14	15	16	18
120 kg	18	17	18	19	21
140 kg	21	19	21		

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

PD Plus dialysate volume for anuric WOMEN

Standard Kt/V of 1.7 by transport status[1]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	9	8	9	9	10
80 kg	11	10	11	12	13
100 kg	14	13	14	14	16
120 kg	17	15	16	17	19
140 kg	19	17	19	20	22

Assumes zero residual kidney function and allows for UF of <1 L/day.
Treatment volumes of over 18L may require more than 6 exchanges per day.
PD Plus includes morning fill and 1 daytime exchange.

[1]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

CAPD dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6		6	6	7
80 kg	7		7	7	8
100 kg	9		9	9	10
120 kg	11		10	11	12
140 kg	12		12	12	14

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
APD is strongly recommended for high transporters.

[1]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [2]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

APD dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Weight (kg)	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	7	6	7	7	8
80 kg	9	8	9	9	10
100 kg	11	10	11	11	13
120 kg	13	12	13	13	15
140 kg	15	14	15	16	18

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
PD plus includes morning fill and 1 daytime exchange.

[1]Misra M, Nolph KD, Khanna R. Will automated peritoneal dialysis be the answer? Perit Dial Int. 1997 Sep-Oct;17(5):435-9. [2]Mujais S, Vonesh E. Profiling of peritoneal ultrafiltration. Kidney Int Suppl. 2002;(81):S17-S22. Average transporter status modeled from source.

PD Plus dialysate volume for MEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	6	6	7	7
80 kg	8	8	8	8	10
100 kg	10	9	10	10	12
120 kg	12	11	12	12	14
140 kg	14	12	13	14	16

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
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CAPD dialysate volume for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	5		5	5	6
80 kg	6		6	6	7
100 kg	8		7	8	9
120 kg	9		9	9	10
140 kg	10		10	10	12

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Maximum treatment volume of 12L – 15L based on dialysate bag sizes up to 3L.
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APD dialysate volume for WOMEN

Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

	Transporter Status:				
Weight (kg)	Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	6	6	6	7
80 kg	8	7	8	8	9
100 kg	10	9	9	10	11
120 kg	11	10	11	11	13
140 kg	13	12	13	13	15

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
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Standard Kt/V of 2.0, with residual renal function (RRF) of 4 GFR, by transport status[1,2]

Weight (kg)	Transporter Status: Average (Used for initial prescription)	High	High Avg.	Low Avg.	Low
<60 kg	6	5	5	6	6
80 kg	7	6	7	7	8
100 kg	9	8	8	9	10
120 kg	10	9	10	10	12
140 kg	12	11	11	12	14

Assumes RRF stdKt/V = 1.0; dialysate target stdKt/V = 1.0.
Allows for UF of <1 L/day. Treatment volumes of over 18L may require more than 6 exchanges per day.
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